

ROCKY FLATS PLANT  
EMD OPERATING  
PROCEDURES MANUAL  
VOLUME III: GEOTECHNICAL

Manual No.: 5-21000-OPS-GT  
Procedure No.: Table of Contents, Rev 53  
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Organization: Environmental Management

THIS IS ONE VOLUME OF A SIX VOLUME SET  
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VOLUME III: GEOTECHNICAL (GT)  
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**EG&G  
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93-DMR-000955	Form GT.2A Modification	2	01/10/94
93-DMR-000960	QC Sample Collection Modification	2	01/10/94

CLASSIFICATION REVIEW WAIVER  
J. HOFFMAN, CLASSIFICATION OFFICE  
JUNE 11, 1991

ADMIN - 100RD

A-SW-001364

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GT.07	Logging and Sampling of Test Pits and Trenches	2	05/12/92
•94-DMR-000276	Section GT.07 and form Modifications	2	02/28/94

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4-E42-ER-OPS-GT.08	Surface Soil Sampling	3	01/25/94
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DCN 92.02	Modification to Stacking Requirements	2	EXPIRED
DCN 92.03	Modification to Method of Taking Readings	2	EXPIRED
DCN 93.01	5.4 Field Procedure Revisions	2	01/25/93
DCN 93.02	5.5 Time Domain Electromagnetic Metal Detection	2	11/22/93
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GT.24	Approval Process for Construction Activities on or Near Individual Hazardous Substance Sites (IHSSs)	0	05/12/92

## DOCUMENT MODIFICATION REQUEST (DMR)

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Refer to 1-A01-PPG-001 for Processing Instructions.  
 Printer Type All Information (Except Signatures).

1. Date 12-6-93 25. DMR No. 94-DMR-000297  
 3. New Document Number or Document Number if it is to be changed with this Revision N/A

2. Existing Document Number/Revision 5-21000-OPS-GT.20  
 4. Originator's Name/Phone/Pager/Location P. A. Kiefer, X8698, 080

5. Document Title Procedures for Soil Interstitial Water Sampling and Sampler Installation

6. Document Type ☒ Procedure ☐ Other  
 7. Document Modification Type (Check only one) ☐ New ☐ Revision ☒ Intent Change ☒ Nonintent Change ☐ Editorial Correction ☐ Cancellation

8. Item	9. Page	10. Step	11. Proposed Modifications
1	4	4.2	Add reference as identified on attached.
2	25	11.0	Make changes as identified on attached
3	GT.20A (rev.2)		Eliminate this form from the procedure
4	GT.20B (rev.2)		Eliminate this form from the procedure
5	GT.20A (rev.3)		Insert this form into the procedure (ATTACHED)

12. Justification (Reason for Modification, EJO #, TP #, etc.)

Form GT.20A (rev.2) was combined with GT.7A (rev.2) into the new, all including, form GT.7A (rev.3). This procedure directs the user to use GT.7A (rev.3), this DMR eliminates GT.20A (rev.2). The existing form GT.20B was revised and renamed to GT.20A.

DOCUMENT CLASSIFICATION REVIEW WAIVER  
 PER R.B. HOFFMAN, CLASSIFICATION OFFICE  
 JUNE 11, 1991

If modification is for a new procedure or a revision, list concurring disciplines in Block 13, and enter N/A in Blocks 14 and 15. If modification is for any type of change or a cancellation, organizations are listed in Block 13, then Concuror prints, and signs in Block 14, and dates in Block 15.

13. Organization	14. Print, Sign (if applicable)	15. Date (if applicable)
SME	M. Z. Litaor <i>Michael Litaor</i>	12-6-93
SM	P. A. Kiefer <i>P. A. Kiefer</i>	12-6-93
EQS	(RR) Mark Brooks <i>Mark Brooks</i>	02-23-94

16. Originator's Supervisor (print/sign/date) D. D. Stagg *D. D. Stagg* 2/4/94  
 17. Assigned SME/Phone/Pager/Location M. Z. Litaor/8583/NA/080  
 18. Cost Center 3003  
 19. Charge Number ENV-GT  
 20. Requested Completion Date 02/25/94  
 21. Effective Date FEB 28 1994  
 22. Accelerated Review? Yes ☐ No ☒  
 23. ORC Review ORC Review Not Required  
 24. Responsible Manager (print/sign/date) ~~Bruce Peterman~~ Mark Levin *Mark Levin*

PROCEDURES FOR SOIL INTERSTITIAL WATER SAMPLING AND SAMPLER INSTALLATION

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Litaor, M.I. "Review of Soil Solution Samplers". Water Resources Research. Volume 24. 1988. pp. 728-733.

Rhoades, J.D. and J.D. Oster. Solute Content. A. Klute, ed. "Methods of Soil Analysis Agronomy". Vol. 9, Part 1. Soil Sci. Soc. of Am. 2nd ed. Madison, Wisconsin. 1986. pp. 985-1004.990.

### 4.2 INTERNAL REFERENCES

Related SOPs cross-referenced by this SOP are as follows:

- SOP FO.3, General Equipment Decontamination
- SOP FO.4, Heavy Equipment Decontamination
- SOP FO.13, Containerization, Preserving, Handling, and Shipping of Soil and Water Samples
- **SOP FO.14, Field Data Management**
- SOP GW.5, Field Measurement of Groundwater Field Parameters
- SOP GW.6, Groundwater Sampling
- SOP GT.7, Logging and Sampling of Test Pits, Trenches, and Construction Excavations

### 5.0 INSTALLATION OF TENSION SOIL SOLUTION SAMPLERS

Tension soil solution samplers consist of a hollow, porous section made of PTFE (Teflon®) embedded with a silica which is attached to a sample vessel. Water samples are obtained by applying suction to the sampler that draws interstitial waters into the sample vessel. There are no maintenance requirements for the soil water samplers except protecting the access tubes from physical damage.

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### 10.0 DECONTAMINATION

Excavation equipment will be decontaminated prior to excavating each trench or pit and at the conclusion of the operation. Sampling and peeling equipment will be decontaminated prior to collecting each sample. Care should be taken to inspect and monitor all excavation equipment, especially the backhoe, to ensure that no hydraulic and/or fuel leaks add contaminants to the site.

Specific decontamination procedures are described in SOP FO.3, General Equipment Decontamination and SOP FO.4, Heavy Equipment Decontamination.

### 11.0 DOCUMENTATION

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All field information required by this SOP will be documented on Forms GT.7A and GT.20A, B, and C. Form GT.20A will be used to record data during excavation of the test pit and soil sampling. Form GT.20BA will be used for recording data collected during soil interstitial water sampling. Form GT.20C will be used to record data during filtering of the soil interstitial water sampling. Field observations and data will be recorded with black waterproof (permanent) ink on the field data forms.

Information from the Pit Soil Profile Description (Form GT.7A) and Soil Water Sampling Field Data Form (Form GT.20A) shall be entered into the field data capture program (Datacap) when released (see procedure FO.14, Field Data Management).